

Patent
82478-1900

IN THE CLAIMS:

1. (Currently Amended) An arc tube comprising:
a glass tube having a turning part, and being wound around an axis from the turning part to at least one end of the glass tube, so as to form a spiral part shaped as a curve that advances along the axis from the turning part; and
a phosphor coating provided on an inner surface of the glass tube, wherein
at any cross section of the glass tube of the spiral part, the phosphor coating is thicker in a first area than in a second area, the first and second areas facing each other in a direction that is parallel to the axis and that passes through a center of the cross section, the first area being nearer the end of the glass tube than the second area is.
2. (Original) The arc tube of Claim 1, wherein;
the phosphor coating provided on the first area increases in thickness from the turning part towards the glass-tube end.
3. (Original) The arc tube of Claim 1, wherein:
the glass tube is wound around the axis from the turning part to both ends of the glass tube.
4. (Original) The arc tube of Claim 1, wherein:
a mass per unit area of the phosphor coating provided on the second area is in a range of 2 mg/cm² to 12 mg/cm² inclusive.

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5. (Original) The arc tube of Claim 1, wherein:
a mass per unit area of the phosphor coating provided on the first area is in a range of 5 mg/cm² to 30 mg/cm² inclusive.

6. (Original) The arc tube of Claim 1, wherein
the phosphor coating is a three band phosphor coating.

7. (Original) A discharge lamp comprising the arc tube of Claim 1.

8-13. (Cancelled)

14. (New) An arc tube comprising:
a glass tube having a turning part, and being wound around an axis from the turning part to at least one end of the glass tube, so as to form a spiral part; and
a phosphor coating provided on an inner surface of the glass tube, wherein
at any cross section of the glass tube of the spiral part, the phosphor coating is thicker in a first area than in a second area, the first and second areas facing each other in a direction that is parallel to the axis and that passes through a center of the cross section, the first area being nearer the end of the glass tube than the second area is, wherein the glass tube is wound around the axis from the turning part to both ends of the glass tube.

15. (New) The arc tube of Claim 14, wherein;
the phosphor coating provided on the first area increases in thickness from the turning part towards the glass-tube end.

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16. (New) The arc tube of Claim 14, wherein:
a mass per unit area of the phosphor coating provided on the second area is in a range of 2 mg/cm² to 12 mg/cm² inclusive.
17. (New) The arc tube of Claim 14, wherein:
a mass per unit area of the phosphor coating provided on the first area is in a range of 5 mg/cm² to 30 mg/cm² inclusive.
18. (New) The arc tube of Claim 14, wherein
the phosphor coating is a three band phosphor coating.
19. (New) A discharge lamp comprising the arc tube of Claim 14.

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